



## Service Manual – TBS

## Important Safeguards/Symbols

This appliance is designed for commercial use. Any servicing other than cleaning and preventive maintenance should be performed by an authorized Wilbur Curtis service technician.

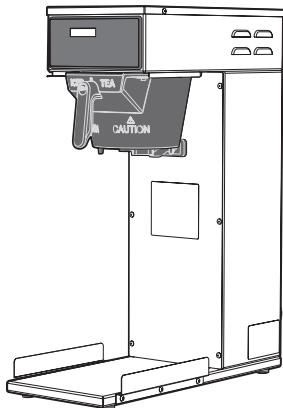
- Do NOT immerse the unit in water or any other liquid
- To reduce the risk of fire or electric shock, do NOT open service panels. No user serviceable parts inside.
- Keep hands and other items away from hot surfaces of unit during operation.
- Never clean with scouring powders, bleach or harsh chemicals.

## Symbols

**WARNINGS** – To help avoid personal injury

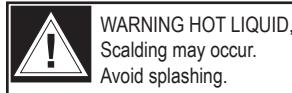
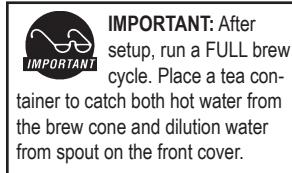
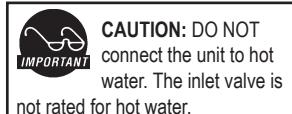
**Important Notes/Cautions** – from the factory

**Sanitation Requirements**



Models Included:

- TBS



ISO 9001:2008 REGISTERED

WILBUR CURTIS CO.  
Montebello, CA 90640

For the latest information go to  
[www.wilburcurtis.com](http://www.wilburcurtis.com)  
Tel: 800/421-6150

## The Curtis G3 Brewer is Factory Pre-Set and Ready to Go... Right from the Box.

Following are the Factory Settings for the G3 Iced Tea Brewer.

- Brew Temperature = 204°F
- Brew Volume = Set to dispensing vessel requirements

Generally there will never be a reason to change the G3/Gold Cup Series default settings. However, should you need to make slight adjustments to meet your brewing needs, programming instructions are provided later in this manual.

## System Requirements:

- Water Source 20 – 90 PSI. Minimum flow rate of ½ gpm (1 gpm preferred flow rate).
- Electrical: See electrical schematic on page 6.

## SETUP STEPS

The unit should be level (left to right and front to back), and located on a secure counter top. Connect a water line from the water filter to the brewer.

**NOTE:** A water filtration system must be used to help maintain trouble-free operation. **Air must be purged from the cartridge prior to connection to equipment.** In areas with extremely hard water, we highly recommend the use of a Curtis approved water filter. For our full line of filters, please log on to [www.wilburcurtis.com](http://www.wilburcurtis.com).

NSF International requires the following water connection:

1. A quick disconnect or additional coiled tubing (at least 2x the depth of the unit) so that the machine can be moved for cleaning underneath.
2. In some areas an approved back-flow prevention device may be required between the brewer and the water supply.
3. Water pipe connections and fixtures directly connected to a potable water supply shall be sized, installed and maintained in accordance with federal, state, and local codes.

1. A 1/4" Flare has been supplied for water line connection. Use tubing sized sufficiently to provide ½ GPM (preferred flow rate is 1 gpm).
2. Connect the unit to an appropriate electrical power circuit.
3. Turn on the toggle (STANDBY/ON) switch behind the unit. The heating tank will start to fill. When the water level in the tank rises to the correct volume, the heating element will energize automatically. With G3 tea brewers there is no danger of element burnout caused by an empty tank.
4. The heating tank will require 20 to 30 minutes to reach operating temperature (204°F). This is indicated when READY-TO-BREW is displayed on the screen.
5. Important: Run one full brew cycle, to purge the water lines and valves of air. Five seconds of dilution water at the beginning of each brew cycle is normal operation.

FOR THE LATEST SPECIFICATIONS AND INFORMATION GO TO [WWW.WILBURCURTIS.COM](http://WWW.WILBURCURTIS.COM)

## Getting Started

### Quick Start

TBS

Your Curtis Generation 3 Brewer is Factory Pre-Set for Optimum Performance.

After connection to water and power; the rear toggle switch must be on. You will hear a beep sound, indicating power is available to the controller.

The control displays **CURTIS**. Press ON/OFF button and the screen will display **< TCT > CURTIS**. After three seconds, **CURTIS FILLING** is displayed.

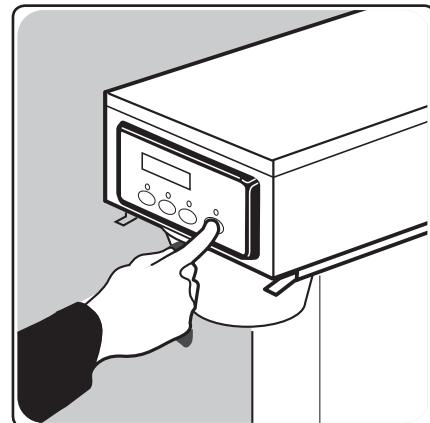
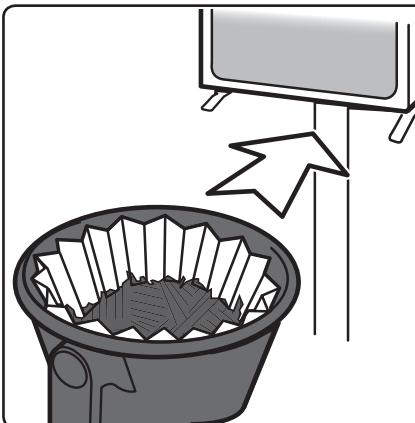
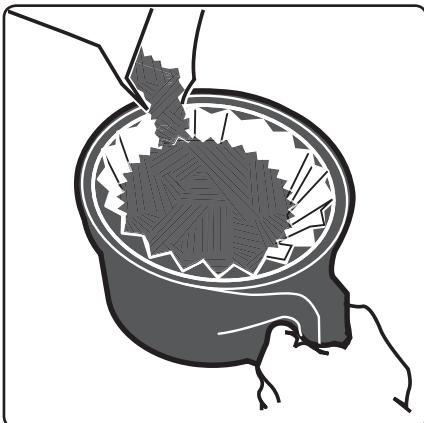
Water will fill the tank (approximately 2-3 minutes depending on water flow rate). When the proper level is reached **CURTIS HEATING** will appear on the screen.

It takes approximately 20 minutes to reach set point temperature of 204°F.

Control will display **CURTIS READY to BREW** when temperature reaches the set point (204°F). Unit is now ready to brew.

## Tea Brewing Instructions

1. Brewer should be ON (Confirm at rear toggle switch, then press ON/OFF button). **Ready-to-Brew** should be displayed on the screen.
2. Make sure tea container is correctly placed on the brew deck, centered under the brew cone.



3. Place a new filter into the brew basket. Pour leaf tea into the brew cone.
4. Slide the tilted brew cone into brew rails.
6. Select the desired BREW button and press to start brewing tea.



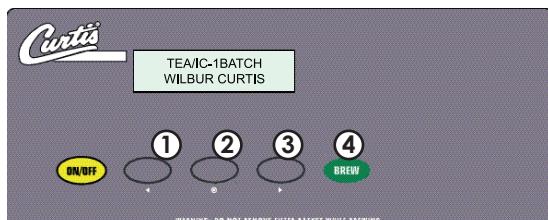
WARNING TO AVOID SCALDING, Do not remove the brew cone or coffee container until the UCM screen indicates that the brew cycle has finished.

# To Go Into Programming

Turn off (dark display) by pressing ON/OFF button (yellow). Press and hold BREW button ④ (green) and then press and release ON/OFF button (yellow).

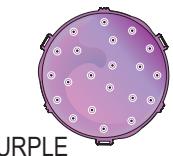
Continue holding BREW button. Display will read **ENTERING PROGRAM MODE**, wait until **ENTER CODE** is displayed Enter the 4-digit access code, the digits 1-4 correspond to the buttons (see illustration below).

The default code set at the factory is 1-2-3-4. Then **PROGRAM MENUS < SELECT >** will be displayed.



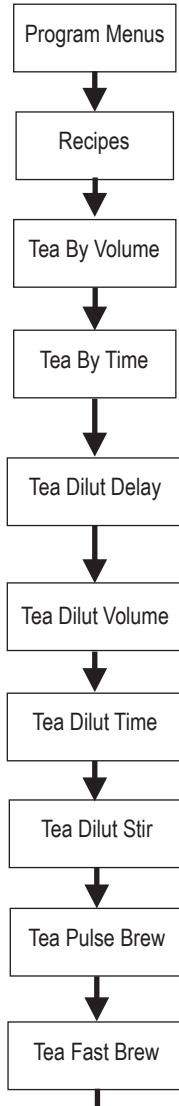
All programming selections are performed with the three center buttons. The symbols below the buttons are:

- ◀ Scroll LEFT
- ◉ SELECTION or ENTER to save new parameter
- ▶ Scroll RIGHT



**SPRAYHEADS:** Mentioned in this Programming guide are the words Gray and Purple. This refers to the color of the sprayhead. The current sprayhead is the purple AFS. The older version is the gray sprayhead. See the illustration at right.

## Program Menus



**Program Menus** screen. Press **>** button, to show the next menu item.

### **Recipes** (Factory set to Standard Tea Purple)

Press **◉** to Select. Press **<** or **>** to scroll through recipes: Standard Gray, Standard Purple, Tropical Gray, Tropical Purple, 76/308 Gray or 76/308 Purple. Press **◉** to set.

**Tea by Volume:** Press **◉** to select, Display will now show Push START To Begin... Press the BREW button then hot water starts running, when desired volume is reached press BREW button again to stop the flow. Now the volume has been set. Pressing **>** button will display the subsequent menu features.

### **Tea by Time** (Factory set to 5:52)

Press **◉** to select. By pressing **<** or **>** buttons, you can increase and decrease time. Press **◉** to set minutes and seconds. Units with the half batch option, the Half Batch brew button is factory set at for half the brew time (2:56).

### **Tea Dilution Delay** (Factory set to 0:30)

Press **◉** to Select. Press **<** or **>** buttons, to add or decrease time. Press **◉** to set.

**Tea Dilution Volume:** Press **◉** to Select, Display will now show Push START To Begin... Press the BREW button and water will flow, when desired volume is reached press BREW button again to stop the flow. Now the volume has been set. Press **>** to display subsequent menu features.

### **Dilution Time** (Factory set to 4:05)

Press **◉** to Select. By pressing **<** or **>** buttons, you can increase and decrease time. Press **◉** to set minutes and seconds.

### **Tea Dilution Stir** (Factory set to ON).

Press **◉** to Select. Press **<** or **>** buttons, to toggle between OFF and ON. Press **◉** to set.

### **Tea Pulse Brew** (Factory set to OFF).

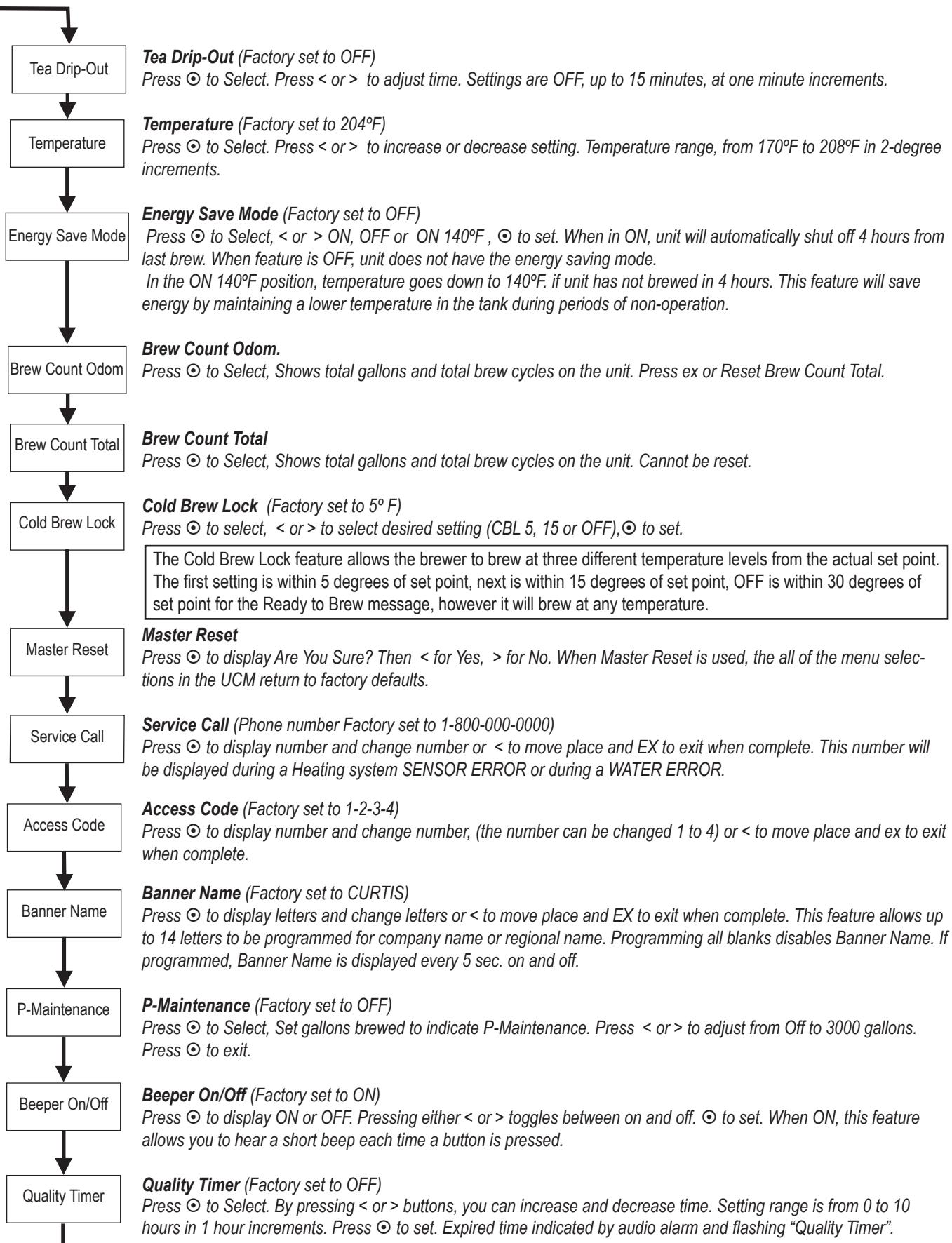
Press **◉** to Select. Press **<** or **>** to select ON, OFF or D. D is a manual adjust from 1 to 20 pulses with an ON time from 5 to 150 seconds and an OFF time from 5 to 150 seconds.

### **Tea Fast Brew** (Factory set to OFF).

Press **◉** to Select, press **<** or **>** to choose ON or OFF. Selecting ON will start hot water spraying in the brew cone first and then 1 minute later the dilution water will start to flow.

Continued on Page 3

## Programming



## Programming

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Display Brew Time

**Display Brew Time** (Factory set to ON)

Press  $\odot$  to Select. Pressing < or > toggles between ON and OFF.

Display Messages

**Display Messages** (Factory set to ON)

Press  $\odot$  to display ON or OFF. Pressing either < or > toggles between on and off. This feature allows the operator to select the message "Rinse Server Before Brewing". This will be displayed any time the unit is not brewing.

Model Select

**Model Select** (Factory set to TEA/IC-1BATCH)

Press  $\odot$  to select, < or > to select model. The selections are: TEA/IC-1BATCH, TEA/IC-2BATCH, TEA/IC-3BATCH, TEA/IC-4BATCH, TEA-SWEET, DUAL DILUTION, DUAL-SWEET, COMBO, COMBOSWEET. Press  $\odot$  to set. When the Model Select feature is changed, all settings are reset to the defaults of the newly selected model.

Exit

**Exit**

Press  $\odot$  to select, exits program mode and returns unit to operation. Pressing > returns you to Tea Recipes.

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## Tank Temperature Check

Turn on brewer at the control panel ON/OFF button. Press and hold  $\textcircled{3}$  button (see illustration, page 3) for 5 seconds. Water Temperature will be displayed (temperature in heating tank).

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## Error Message

With G3/Gold Cup Series brewers, there are three error messages that can appear on the screen to advise the user of a malfunction. If one of these error messages appear, the brewer will lock up and stop functioning until the error is corrected.

An error message will occur under the following conditions:

(800) 000-000  
Water Level Err

1. Water level fill error or overflow. This error message occurs when the inlet valve solenoid has been on for more than 10 minutes. This error message also occurs when the valve is refilling the tank during a brew cycle for more than 1½ minutes.

(800) 000-000  
Sensor Err

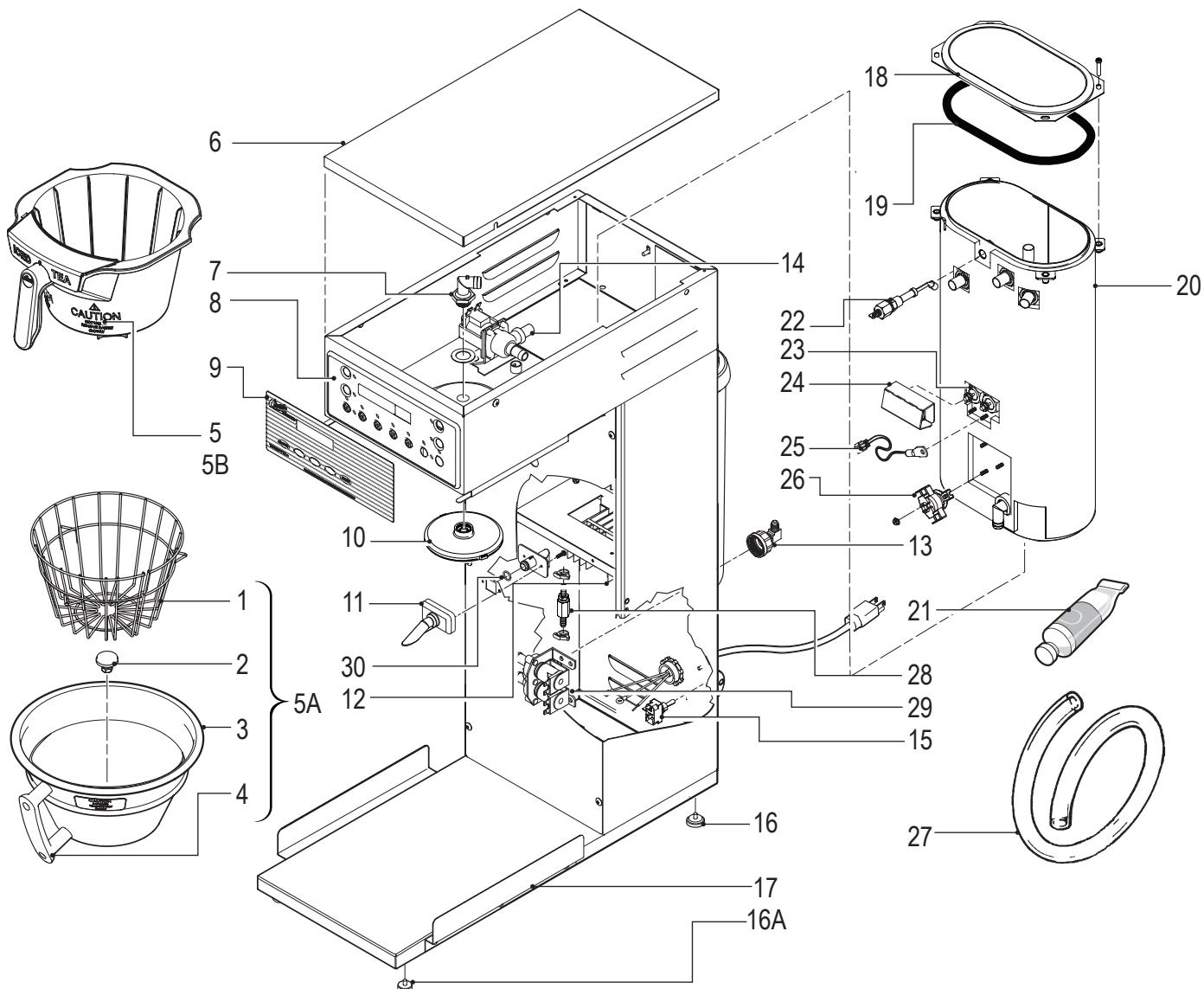
2. Water temperature control system error. An open probe or a break in the temperature control circuit is detected.

(800) 000-000  
Over Temp Err

3. Excess temperature. The temperature sensor is reading that the temperature in the heating tank has risen above 210°F.

The screen may display a phone number to call for service. After the malfunction is corrected, the error message must be cleared. To reset the control panel and return to normal operation, press  $\odot$  for 5 seconds.

## ILLUSTRATED PARTS TBS



ITEM №	PART №	DESCRIPTION
1	WC-3301	BASKET, WIRE 7.00 DIA. USE WITH WC-3311 (OPTIONAL)
2	WC-3647	STRAINER BT-10 BREW CONE (EXCEPT PARADISE)
2A	WC-8532	STRAINER, TROPICAL BREW CONE
3	WC-3320	BREW CONE W/HANDLE 8.8" D W/SWEETENER (OPTIONAL)
4	WC-3201	HANDLE, BREW CONE BLACK FOR WC-3320
5	WC-3398	BREW CONE, ASSY STD TEA NON-METAL W/BLUE GUARD
5A	WC-3358	BREW CONE W/WC-3320, WC-3301 & WC-3647 (OPTIONAL)
5B	WC-3399	BREW CONE, ASSY TROPICAL TEA NON-MTL W/YEL GUARD
6	WC-58117	COVER, TOP BREWER
7	WC-2977-101K	KIT, SPRAYHEAD FITTING PLASTIC
8	WC-37572*	KIT, UCM & OVERLAY TBS
9	WC-390168	LABEL, UCM OVERLAY TCT/PTT 1-BATCH CURTIS LOGO
10	WC-29025*	SPRAYHEAD, PURPLE ADVANCE FLOW
10A	WC-2942	SPRAYHEAD, GRAY
11	WC-66079	SPOUT ASSY, DILUTION PLASTIC
12	WC-8556*	HEAT SINK ASSY DV

\* RECOMMENDED PARTS TO STOCK

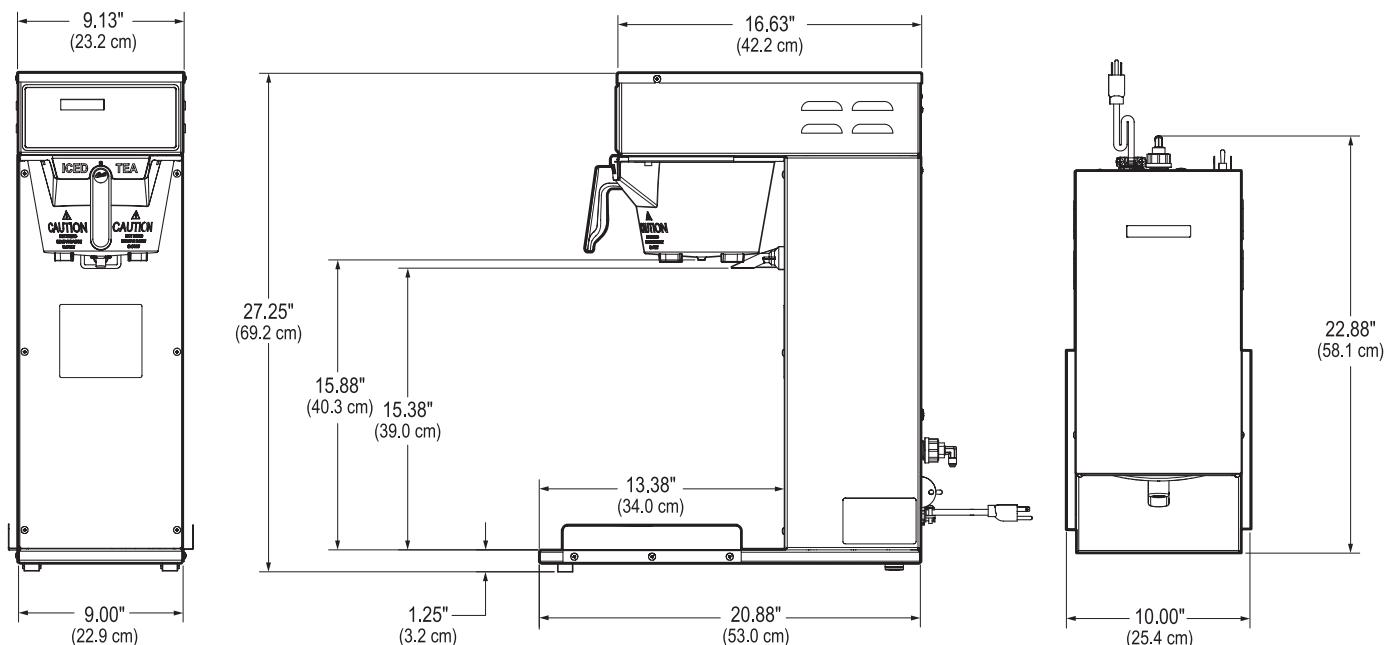
## PARTS LIST

ITEM №	PART №	DESCRIPTION
13	WC-37255	KIT, DUAL VALVE WATER INLET
14	WC-889 *	VALVE, DUMP LEFT 120V 12W
14A	WC-860 **	VALVE, DUMP LEFT 220V 12W
15	WC-102*	SWITCH, TOGGLE SPST 25A 125/250VAC RESISTIVE
15A	WC-103**	SWITCH, TOGGLE NON-LIT DPST 25A 125/250VAC RESISTIVE
16	WC-3518	LEG, GLIDE 3/8"-16 STUD SCREW
16A	WC-3503	LEG, 8-32 STD SCREW BUMPER
17	WC-8531	RAIL, BASE TCTD
18	WC-5853-102	COVER, TOP HEATING TANK GEN USE
18A	WC-5851	COVER, TANK W NOTCHES (OLDER UNITS)
19	WC-43062	GASKET, TANK LID
20	WC-6277	TANK, COMPLETE 1600W 120V
20A	WC-6290-101**	TANK, COMPLETE TCTS/ PTT3 /CBS/W/WC- 934-01 ELEMENT
21	WC-5231*	COMPOUND SILICONE 5 OZ
22	WC-5502-01*	KIT, PROBE, ASSY WATER LEVEL W/HEX FITTING, O-RING & NUT
23	WC-904-04*	ELEMENT, HEATING 1.6KW 120V W/JAM NUTS
23A	WC-934-04**	KIT,ELEMENT HEATING 2.5KW 220V W/JAM NUT & WASHERS
24	WC-4394	SHOCK GUARD, HEATING ELEMENT
25	WC-1438-101*	SENSOR, TEMPERATURE TANK
26	WC-523*	THERMOSTAT, MANUAL RESET 120/220V 25A 220°F MAX
26A	WC-522 **	THERMOSTAT, HI LIMIT HEATER CONTROL DPST 277V 40A
27	WC-5310*	TUBING, 5/16" ID X 1/8" W SILICONE
28	WC-810-103	VALVE, CHECK 3/8 X 3/8 BARB SS WITH O-RING & .010 SPRING
29	WC-895-105	VALVE, INLET DUAL 120V 10W 2 GPM X .5 GPM
29A	WC-878-102**	VALVE, INLET DUAL 220V 10W 1.0 GPM TANK X .5GPM DILUTION
30	WC-43134	O'RING, .426 X 9/16 O.D X .070 WALL EDPM TCTS

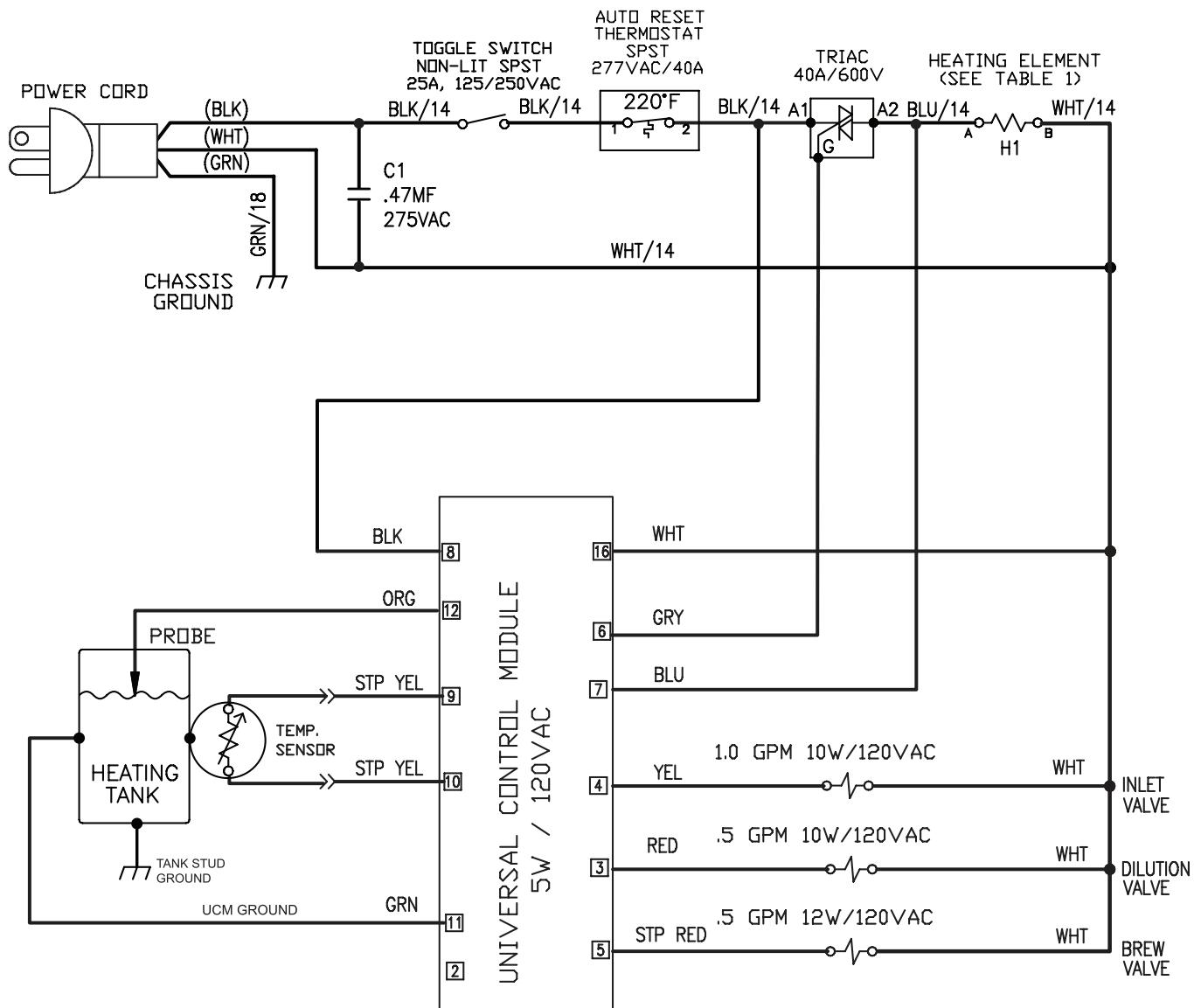
\* RECOMMENDED PARTS TO STOCK

\*\* 220V COMPONENTS

## ROUGH-IN DRAWING



## ELECTRICAL SCHEMATIC

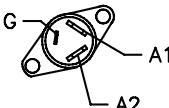


PIN ASSIGNMENTS	
PIN 01:	NOT USED
PIN 02:	NOT USED
PIN 03:	DILUTION VALVE
PIN 04:	INLET VALVE / TANK
PIN 05:	BREW VALVE
PIN 06:	TRIAC GATE
PIN 07:	TRIAC A2
PIN 08:	120VAC HOT
PIN 09:	TEMP. SENSOR
PIN 10:	TEMP. SENSOR
PIN 11:	GROUND
PIN 12:	WATER LEVEL PROBE
PIN 13:	NOT USED
PIN 14:	NOT USED
PIN 15:	NOT USED
PIN 16:	120VAC NEUTRAL

ELECTRICAL RATING TABLE 1

MACHINE	HEATING ELEMENTS	TOTAL POWER (WATTS)	TOTAL CURRENT (AMPERES)
(SC)TCTS/T-10 PTT3-10/TBS	1600W 120VAC	1650W	13.8A
(SC)TCTS/T-20 PTT3-20/TBS-20	1450W 120VAC	1500W	12.5A

TRIAC PIN ASSIGNMENTS



VOLTAGE:	120VAC
WATTAGE:	SEE TABLE 1
AMPERAGE:	SEE TABLE 1
HERTZ:	50/60
WIRES:	2W+G
PHASE:	1PH

2. USE THIS DIAGRAM FOR ALL OTHER MODELS WITH ADDED PREFIX LETTERS AND/OR DIFFERENT DASH NUMBER ON THEIR PART NUMBERS HAVING THE SAME ELECTRICAL RATINGS.  
EX.: TCTS10000

1. ALL WIRES SHALL BE 18 AWG PVC COATED.  
NOTES: UNLESS OTHERWISE SPECIFIED

TITLE:	LADDER DIAGRAM	
PART NUMBER:	LD-TCT-10	REVISION: J

## TEA TIPS



**WARNING** DO NOT refrigerate unused tea overnight for later consumption.

1. Store tea bags in a dark, cool and dry place away from strong odors and moisture. Do not refrigerate.
2. Never hold finished brewed tea for more than eight hours at room temperature. Discard any unused tea after eight hours.
3. Brew only enough tea that you reasonably expect to serve within a few hours.
4. To protect tea flavor and to avoid bacterial contamination and growth, clean and sanitize tea brewing, storage and dispensing equipment at least once a day.

## CLEANING



**IMPORTANT:** If the brew cone comes with a screen; clean the screen to maintain the tea flow. Neglecting this screen will eventually cause the brew cone to overflow, spilling hot liquid over the unit.



**CAUTION:** DO NOT use undiluted bleach or chlorine.

Regular cleaning of your tea containers will maintain the highest quality iced tea your equipment is capable of producing. A proper cleaning is essential in preserving the appearance of the brewer.

1. Turn off the tea brewer at the ON/OFF button on the front control panel.
2. Wipe exterior surfaces with a damp cloth, removing spills and debris.
3. Slide the brew cone out and clean it. Thoroughly soap the sprayhead area with a mild detergent solution.
4. Wash the brew cone and wire brew basket, if applicable. Use a soft bristled brush for hard to clean areas. Wash both parts with a detergent solution or put these parts through a dishwasher.
5. Wash the tea container and top cover. Use a detergent solution and a soft bristled brush to clean inside the container. Wipe the exterior surfaces with a sponge and detergent solution. Rinse thoroughly.
6. Clean the faucet assembly. Unscrew the handle assembly from the faucet and remove. Clean the faucet shank with a gage glass brush (circular bristle) by pushing the brush through the shank. Using the same brush clean the faucet body inlet and outlet. Clean the faucet cap and silicone seat cup. Thoroughly rinse parts with hot water.
7. After the cleaning, place the parts (sprayhead, brew cone and basket and faucet parts) into a sink to be sanitized.  
To sanitize the disassembled parts:
  - A. Use a clean container to submerge all parts.
  - B. Immerse in commercial Bar Tabs/Sani-Tabs sanitizing solution The solution must be warm (75°F.) Let the parts soak for one minute.
8. Air dry, all parts that were sanitized.
9. After cleaning, sanitizing and drying, assemble any parts taken from the tea container.
10. Clean out airpots with a sponge brush and a mild detergent solution. To remove mineral deposits, fill liner with vinegar and allow to soak.

## LIQUID LEVEL PROBE

Cleaning intervals for the probe are to be determined by the user or the service tech, based on water conditions. The use of water filters, or the type of water filter that is being used can impact the service interval. Intervals can be from one month to several years, however, replacing rather than cleaning the probe is preferable.



**WARNING:** Electric shock hazard. Disconnect electrical power before removing access panels.



**CAUTION:** Scalding and Burn hazard. Hot water and hot surfaces. Allow unit to cool before working.

1. Unplug the power cord and shut off the water line.
2. Remove the top cover of the tea brewer. Locate the heating tank and remove the top cover.
3. Drain the tank to a level about 3" below the tip of the probe.
4. Allow some time for the heating tank and liquid level probe to cool down before proceeding.
5. Clean the tip of the probe using a Scotch-Brite™ scuff pad.
6. If a white residue is still visible on the probe, remove the probe and soak it in vinegar or a scale removing chemical. Repeat this step until the probe is clean.



## Product Warranty Information

The Wilbur Curtis Company certifies that its products are free from defects in material and workmanship under normal use. The following limited warranties and conditions apply:

3 Years, Parts and Labor, from Original Date of Purchase on digital control boards.

2 Years, Parts, from Original Date of Purchase on all other electrical components, fittings and tubing.

1 Year, Labor, from Original Date of Purchase on all electrical components, fittings and tubing.

Additionally, the Wilbur Curtis Company warrants its Grinding Burrs for Forty (40) months from date of purchase or 40,000 pounds of coffee, whichever comes first. Stainless Steel components are warranted for two (2) years from date of purchase against leaking or pitting and replacement parts are warranted for ninety (90) days from date of purchase or for the remainder of the limited warranty period of the equipment in which the component is installed.

All in-warranty service calls must have prior authorization. For Authorization, call the Technical Support Department at 1-800-995-0417. Effective date of this policy is April 1, 2003.

Additional conditions may apply. Go to [www.wilburcurtis.com](http://www.wilburcurtis.com) to view the full product warranty information.

### CONDITIONS & EXCEPTIONS

The warranty covers original equipment at time of purchase only. The Wilbur Curtis Company, Inc., assumes no responsibility for substitute replacement parts installed on Curtis equipment that have not been purchased from the Wilbur Curtis Company, Inc. The Wilbur Curtis Company will not accept any responsibility if the following conditions are not met. The warranty does not cover and is void under the following circumstances:

- 1) Improper operation of equipment: The equipment must be used for its designed and intended purpose and function.
- 2) Improper installation of equipment: This equipment must be installed by a professional technician and must comply with all local electrical, mechanical and plumbing codes.
- 3) Improper voltage: Equipment must be installed at the voltage stated on the serial plate supplied with this equipment.
- 4) Improper water supply: This includes, but is not limited to, excessive or low water pressure, and inadequate or fluctuating water flow rate.
- 5) Adjustments and cleaning: The resetting of safety thermostats and circuit breakers, programming and temperature adjustments are the responsibility of the equipment owner. The owner is responsible for proper cleaning and regular maintenance of this equipment.
- 6) Damaged in transit: Equipment damaged in transit is the responsibility of the freight company and a claim should be made with the carrier.
- 7) Abuse or neglect (including failure to periodically clean or remove lime accumulations): Manufacturer is not responsible for variation in equipment operation due to excessive lime or local water conditions. The equipment must be maintained according to the manufacturer's recommendations.
- 8) Replacement of items subject to normal use and wear: This shall include, but is not limited to, light bulbs, shear disks, "O" rings, gaskets, silicone tube, canister assemblies, whipper chambers and plates, mixing bowls, agitation assemblies and whipper propellers.
- 9) Repairs and/or Replacements are subject to our decision that the workmanship or parts were faulty and the defects showed up under normal use. All labor shall be performed during regular working hours. Overtime charges are the responsibility of the owner. Charges incurred by delays, waiting time, or operating restrictions that hinder the service technician's ability to perform service is the responsibility of the owner of the equipment. This includes institutional and correctional facilities. The Wilbur Curtis Company will allow up to 100 miles, round trip, per in-warranty service call.

**RETURN MERCHANDISE AUTHORIZATION:** All claims under this warranty must be submitted to the Wilbur Curtis Company Technical Support Department prior to performing any repair work or return of this equipment to the factory. All returned equipment must be repackaged properly in the original carton. No units will be accepted if they are damaged in transit due to improper packaging. NO UNITS OR PARTS WILL BE ACCEPTED WITHOUT A RETURN MERCHANDISE AUTHORIZATION (RMA). RMA NUMBER MUST BE MARKED ON THE CARTON OR SHIPPING LABEL. All in-warranty service calls must be performed by an authorized service agent. Call the Wilbur Curtis Technical Support Department to find an agent near you.

ECN 15799 . 4/15/14@13.0 . rev A



**WILBUR CURTIS CO., INC.**

6913 Acco St., Montebello, CA 90640-5403 USA

Phone: 800/421-6150      ♦ Fax: 323-837-2410

♦ Technical Support Phone: 800/995-0417 (M-F 5:30A - 4:00P PST)      ♦ E-Mail: [techsupport@wilburcurtis.com](mailto:techsupport@wilburcurtis.com)

♦ Web Site: [www.wilburcurtis.com](http://www.wilburcurtis.com)

**FOR THE LATEST SPECIFICATION INFORMATION GO TO [WWW.WILBURCURTIS.COM](http://WWW.WILBURCURTIS.COM)**